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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,684	01/22/2002	Francis James Canova JR.	035451-0132 (3645.Palm)	5151

26371 7590 05/31/2006

FOLEY & LARDNER LLP
777 EAST WISCONSIN AVENUE
SUITE 3800
MILWAUKEE, WI 53202-5308

EXAMINER	
SHENG, TOM V	
ART UNIT	**PAPER NUMBER**
2629	

DATE MAILED: 05/31/2006

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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/054,684
Filing Date: January 22, 2002
Appellant(s): CANOVA, FRANCIS JAMES

Chad E. Bement
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/23/2006 appealing from the Office action mailed 7/26/2005.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows: at the end of the statement before the period mark, insert "and Danielson et al. (US 5,805,474)". The Examiner did use the Danielson reference as a support for the common switch toggle feature but inadvertently left out the reference in the statement of rejection.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henry, Jr. (US 5,881,169) in view of Cooper (US 5,006,836) and Danielson et al. (US 5,805,474).

As for system claim 1 and associated interface claim 8, Henry teaches a handheld computer system (figures 1, 3, 5; portable computing device), comprising:

a switch (a switch on the computing device);

a user interface (display screen 120/400 with different text input/selection fields);

a housing (shown outside the display screen 120); and

a display supported by the housing (display screen 120/400),

wherein the user interface includes a text information entry area (individual character selection field 220),

wherein the text information entry area is activated in response to manipulation of the switch (displaying the character selection field 220 when invoked). Further, the switch is outside the display screen versus an equivalent activation area 411 on the

display screen. See column 2, line 65 through column 3, line 12; column 3, lines 31-44; and column 4, lines 34-61.

However, Henry does not teach that the switch is a pressure sensitive switch, the housing having a deformable side, the housing being sized to be held in one hand, the pressure sensitive switch coupled to the deformable side of the housing such that when the housing is squeezed by the one hand, the deformable side is deformed and the switch is toggled.

Cooper teaches a control mouse 10 having pressure operated switches 21 and 22 and are positioned on digit-engaging portions 30 and 31 of the vertical wall 29. The wall 29 is resiliently flexible so that when it is squeezed between portions 30 and 31, it moves inward and presses against operating mechanism 26, 27 of switches 21, 22 (Fig. 3; column 1, line 60 through column 2, line 11). Particularly, when the mouse is squeezed, a closed state signal is sent to the computer, and when the squeezing is relaxed, an open state signal is sent to the computer (column 2, lines 21-52). Further, Cooper teaches that the signals generated by the squeezing and unsqueezing of the mouse can be used for any purpose by the computer (column 2, lines 59-61).

One of ordinary skill in the art, at the time of the invention, would recognize that Cooper's pressure operated switch 21 or 22 reads on claimed pressure operated switch, the flexible portion 30 or 31 reads on claimed deformable side, and the coupling and operation above regarding the switches 21, 22 and the portions 30, 31 read on claimed the pressure sensitive switch coupled to the deformable side of the housing such that when the housing is squeezed by the one hand, the deformable side is

deformed. By incorporating this pressure operated and deformable switching setup into the sidewall(s) of Henry's portable computing device, one would recognize the immediate advantage of being able to engage or disengage an text input mode simply by pressing and releasing with the fingers of the same hand holding the portable computing device.

Specifically, by having a deformable switch on the side instead of over the conventional top, it reduces the number of visible switches that makes the device less complicated. Also, simply by pressing the sidewall using the same hand holding the device to activate the switch, the user does not need to move his hand or fingers from the natural and intuitive hand holding position. Moreover, the saving of time or unnecessary movement of hand/finger to access the switch makes it ergonomic. Finally, this reduces the number of cuts in the housing which makes it more economical to make. Therefore, it would have been obvious to one of ordinary skill in the art to combine the above feature of Cooper into Henry's device because of the above intuitive and ergonomic benefits.

Still, the squeezing and unsqueezing correspond to open and closed states, which is not the same as toggling the switch each time the deformable side is deformed. However, this is a well-known variation and the switch 21 or 22 could easily modified to work as a toggle switch. Danielson teaches a portable data collection terminal with a switch 472, wherein in one mode an internal scanner is activated when the switch is depressed and released and it is deactivated when the switch is depressed and

released a second time (fig. 29 or 30; column 25 lines 49-57). This method is well known in the art as toggling.

One of ordinary skill in the art would realize that, alternatively, modified Henry's input device's depressible switches can be the toggle type, as this allows one to enter the text entry mode without the need to continually depressing the switches. Further, to be able to switch on with one simple press and release makes the device user-friendly than the conventional press and hold. Therefore, it would have been obvious to one of ordinary skill in the art to further change modified Henry's switching setup as the toggle type, due to the benefit of not requiring a constant depressing pressure on the sidewall of the input device and consequently being user-friendly.

As for claim 2, the deactivation is taught by the unsqueezing of Cooper's handheld computer.

As for claim 3, Cooper's squeezing reads on claimed first manipulation and unsqueezing reads on claimed second manipulation.

As for claims 4-5, Cooper's switch 21 or 22 is a squeeze switch.

As for claim 6, Henry teaches also character input area 160 and anticipated character selection field 240 that could be used in any combination with the individual character selection field 220 so as to be activated (popped-up) together.

As for claim 7, Henry teaches that the selection field 240 can be varied in size by dragging the periphery of the field. Obviously, it would be an alternative to activate and deactivate this field 240 instead of field 220 together with this size-changing feature.

As for claim 9, Henry's individual character selection field 220 reads on claimed pictorial representation of a keyboard or an area assigned for entering text information.

As for claims 10-11, Henry's character input area 160 could similarly used in place of the individual character selection field 220 as the field for activation and deactivation.

As for claim 12, naturally when deactivated, the individual character selection field 220 would be removed versus being displayed when activated; otherwise the purpose of activation in the first place is defeated.

Claim 13 is rejected per analyses of claims 8-12 and 5.

As for claims 14-15, as shown, modified Henry's switch is inherently integrated into a portion of a housing of the handheld computer.

As for claims 16-17, it is a basic convenience to provide a specific symbol at the switch to designate the function of the switch.

Method claims 18-22 only differ from claims 1-7 in that the claimed pressure sensitive switch is a non-toggling type. Henry as modified by Cooper reads on the non-toggling pressure sensitive switch as claimed. Moreover, Henry's activation area 411 reads on claimed touch sensor. Further, whether one or both sides are deformable is functionally equivalent and would be determined by factors such as cost and feel.

(10) Response to Argument

Consider Appellant's argument with respect to claims 1-17 (see pages 8-16 of Appeal Brief). The Applicant argues that no suggestion or motivation based on "an intuitive and ergonomic switching function" exits in the cited combination of Henry and

Cooper (and Danielson) to modify or combine the teachings of these references. The Examiner disagrees. Even though there is no explicit motivation from the references for the combination, one of ordinary skill in the art, based on the teachings from these analogous areas, can indeed reasonably combine the teachings. Specifically, the teaching of a deformable wall and corresponding depressible switch in an electronic mouse alone is sufficient for one to incorporate into other portable electronic devices, such as Henry's portable computing device. Moreover, Danielson's teaching of a toggling switch is sufficient for one to alternatively use a toggle switch in a portable electronic device, such as Henry's.

The Applicant also argues that the rejections of claim 1 and 8 are improper because to modify the switches disclosed in Cooper to work as a toggle switch would change the principle operation Cooper. The Examiner disagrees. The rejections are based on incorporating the toggle switch of Danielson in the portable computing device of Henry as modified by Cooper. In that case, there is no conflict in principle of operation since text entry activation by means of either a regular press switch or a toggle press switch would be equally acceptable to most users.

The Applicant further argues that the feature of toggling function of the pressure sensitive switch coupled to a deformable side is against conventional wisdom (thus novel). The Examiner disagrees. In fact, the Applicant teaches (see Specification, page 8, paragraph 27 or lines 20-26) that the switch 119 (fig. 3) for activating and deactivating a text entry area can be a pressure activated switch or sensor, a push button, a mechanical switch, a sliding switch, a space bar type switch, a capacitive

sensor, or other manipulatable device. In other words, the Applicant has regarding the above mechanisms as equivalent, with no one having a particular advantage over the others.

Even though not the same concept, Cooper teaches the idea of having of two functions accessible with the same switch (see abstract), which is similar to a toggle switch. The Danielson reference was cited as it shows that toggle switch is commonly used in the field of input device.

Consider Appellant's argument with respect to claims 18-22 (see pages 16-19 of Appeal Brief). The Applicant argues that no suggestion or motivation based on "an intuitive and ergonomic switching function" exits in the cited combination of Henry and Cooper to modify or combine the teachings of these references. The Examiner disagrees. Even though there is no explicit motivation from the references for the combination, one of ordinary skill in the art, based on the teachings from these analogous areas, can indeed reasonably combine the teachings. Specifically, the teaching of a deformable wall and corresponding depressible switch in an electronic mouse alone is sufficient for one to incorporate into other portable electronic devices, such as Henry's portable computing device.

The Applicant also argues that the feature of a pressure sensitive switch coupled to a deformable side is against conventional wisdom (thus novel). The Examiner disagrees. In fact, the Applicant teaches (see Specification, page 8, paragraph 27 or lines 20-26) that the switch 119 (fig. 3) for activating and deactivating a text entry area can be a pressure activated switch or sensor, a push button, a mechanical switch, a

sliding switch, a space bar type switch, a capacitive sensor, or other manipulatable device. In other words, the Applicant has regarding the above mechanisms as equivalent, with no one having a particular advantage over the others.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Tom Sheng

Conferees:

Amr Awad, Bipin Shalwala

BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER